

SHISHKOVSKAYA, M. A.

**USSR/Chemistry** - Chemical technology

**Card 1/1** : Pub. 22 - 21/41

**Authors** : Logginov, G. I.; Lyubimova, T. Yu.; and Shishkovskaya, M. A.

**Title** : Use of radioactive isotopes for study of changes in the structure of cement stone during its periodic freezing

**Periodical** : Dok. AN SSSR 98/2, 247-250, Sep 11, 1954

**Abstract** : The use of the radioactive isotope method for the study of the causes, mechanisms and kinetics of changes in the structure of cement stone in concrete under the effect of periodic freezing and thawing is described. It is hoped that this new method will make it possible to approach a solution for one of the basic problems, namely, the manufacture of long-lasting concrete with high-freezing resistance. Tables; graphs.

**Institution** : Acade. of Sc. USSR, Institute of Physical Chemistry and the All-Union Road Construction Scientific-Research Institute

**Presented by** : Academician P. A. Rebinder, June 4, 1954

TOMAN, M.; SHISL', O.

Rhythmical precipitation of isomeric phenols. Koll. zhur. 27  
no.6:888-890 N-D '65. (MIRA 18:12)

1. Institut agrokhimicheskoy tekhnologii, Bratislava, Chekno-  
slovakiya. Submitted Feb. 21, 1965.

. SHISHLAKOV, M.I. [Shyshlakov, M.I.], inzh.-stroitel'

Experience in constructing and operating a circular milking barn. Mekh.  
sil'. hosp. 13 no.8:15-18 Ag '62. (MIRA 15:7)

1. Kolkhoz im. XIX s"yezda kommunisticheskoy partii, Velikolipetskiy  
rayon, Kharsonskaya obl.  
(Dairy barns)

SHISHLAKOV, P.G.

Forging chamfers. Kuz.-shtam.proizv. 1 no.5:45-44 My '59.  
(MIRA 12:10)

(Forging)

SHISHLAKOV, P.G.

Zonal heating of blanks for forging following predetermined lines.

Kuz.-shtam. proizv. 2 no. 10:35-37 0 '60. (MIRA 13:10)

(Forging--Equipment and supplies)

85128

S/182/60/000/005/006

A161/A029

1.1200

also 1506.1045

AUTHOR: Shishlakov, P.G.

TITLE: Bending Conical Parts in a Vertical Die

PERIODICAL: Kuznechno-shtampovoye proizvodstvo, 1960, No. 5, pp. 45 - 46

TEXT: This new vertical bending die is designed for producing truncated cones from steel sheet blanks. It replaces the usual bending method for such parts on horizontal bulldozer-presses. The disadvantages of this method are: two dies and two presses are needed for preliminary and final bending; the necessity of heating after preliminary bending; manual straightening of work after final bending is necessary, i.e., finishing the edges and rounding on a special mandrel, straightening of the hot cones taking the longest time of all operations in the process; the manufacture of accurate cones is not ensured due to possible displacement of the pressure center from the gravity center. In the new die truncated cones are shaped without preliminary bending, with a single heating and a single press run and manual finishing is completely eliminated. The heated blank is put in a definite position on the die top (Fig. 2a) and the pressure force of

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SHISHLAKOV, P.G.

Stamping of thin-walled profiled rings. Mashinostroitel' no.8:31-32  
Ag '60. (MIRA 13:9)

(Sheet-metal work)

S/182/60/000/010/013/015/XX  
A161/A030

AUTHOR: Shishlakov, P.G.

TITLE: Spot Heating of Stamping Blanks by Given Epures

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 10, pp. 35 - 37

TEXT: Heating the necessary spots on forging blanks instead of the entire blanks is economical and particularly convenient in forging shops which have electric heating equipment. Several examples of spot heating are described. In order to bend cramps (Fig. 1) the bar can be heated in two spots to 1000°C. For cutting rectangular blanks automatically in a blanking press (Fig. 2) the strip is fed by an automatic feed mechanism to the cutting die and passes between two single-loop induction heaters. A relay switches on the heaters at the moment when the punch starts the downward stroke, and off when the punch rises after cutting. The feed mechanism switches on at the moment when the heaters switch off and the heated spots on the strip are under the punch. The heating epure for rectangular blanks is a rectangle (Fig. 3). The Ivanovskiy mashinostroitel'nyy zavod (probably Ivanovo Machine Plant) uses contact-heaters 2H3-15 (2N3-15) of the "Elektrik" Plant for spot heating of billets for cylindrical-head pins (Fig. 4a); the billet is laid at an incline between the contacts (Fig. 5) and the

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Spot Heating of Stamping Blanks by Given Epures

S/182/60/000/010/013/015/XX  
A161/A030

length of the heated piece can be changed by changing the incline angle and the position of the point A. No clamping is necessary for the top contact holds down the billet, and electric current through the points A and A<sub>1</sub> heats the required billet length. The Klimovskiy (probably Klimovo) Machine Plant uses electric contact heaters of an other design (Fig. 7) for heading bolts with ball head and square underhead (Fig. 6). Maximum temperature is needed at the spot where the head with sharp edge passes over into the square underhead (Fig. 6, epure), and the rod must remain cold for easy ejecting and retaining the smooth work-hardened surface, which is important for subsequent threading. Current through the upper contact of the heater (Fig. 7) splits, and higher temperature in the A - B portion of the billet is obtained because of its shorter length than B - A portion, and lower resistance. A dielectric lining (4) is used in the bottom contact to prevent bending of the billet. The electrodes are cooled with running water. The tension needed is up to 3 v; the heating time is 9 - 12 sec. The last spot-heating example is for bending leaf springs with simultaneous chamfering (Fig. 8), by hot gas in an especially built small flame furnace (Fig. 9). The springs are parts of an automatic loom. There are 9 figures.

Card 2/6

SHISHLAKOV, P.G.

New method for manufacturing "ShEZ." Mashinostroitel' no.12:30  
D '60. (MIRA 13:12)

(Sheet-metal work)

SHISHLAKOV, P.G.

Bending with restriking. Kuz.shtam. proizv. 3 no.1:12-13 Ja '61.  
(MIRA 14:1)

1 (Forging)

S/117/61/000/006/006/012

A004/A104

AUTHOR: Shishlakov, P. G.

TITLE: The advantages of twin die-forging

PERIODICAL: Mashinostroitel', no. 6, 1961, 22-23

TEXT: The author enumerates the advantages of the simultaneous die-forging of two or more parts and points out that with this method the labor productivity is at least doubled. He divides the twin die-forging method into three groups: 1) combining the components in series or in parallel; 2) concentric joining of components; 3) butt-joining of components. With the first operation modus the components are placed at a certain distance from each other, their geometric axes are either turned or not. This method is used in big-lot and mass production, e.g. at the automobile plants where four wing nuts, door handles, hand brake shoes and other parts are die-forged simultaneously. The concentric joining of components for simultaneous die-forging requires an outer component with a circular or square aperture into which the second component or a number of small components are placed. At the "Krasnyy proletariy" Plant this method is used for the die-forging of lathe parts. With this method the necessary forging

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S/117/61/000/006/006/012

AOO4/A104

The advantages of twin die-forging

impact for the parts located on the inside of the outer part is obtained on account of the energy which during separate die-forging is consumed for the extrusion of the inner flash. The die-forging of two butt-joined parts is mainly used for long components possessing a local deformation. Thus the Klimovskiy mashinostroitel'nyy zavod (Klimovo Mechanical Engineering Plant) uses the twin die-forging method for the fabrication of flat springs (Fig. 1) whose 45° face end chamfer was formerly machined by milling.

Figure 2:

1. Continuous heating of the center part of the twin blank, a) heating spot;
2. Forging of tangs in the 1st plane, a) and b) elongation; 3) Forging of tangs in the 2nd plane, a) and b) elongation; 4. Cutting off, a) knives.

The new method, in comparison with the old one, increased the labor productivity by a factor of 10. Based on this method of twin die-forging the author has developed an automated process of die-forging the shanks of fitter's files, which makes it possible not only to cut down considerably the losses of tool steel - which amounted to 40 grams for every file - but to fully automate the production process. The author presents a technological layout of the new automated process which consists in the fact that the center part of the twin blank is heated to the necessary temperature with subsequent simultaneous die-forging of two shanks in

Card 2/3

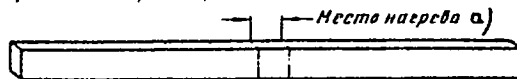
# The advantages of twin die-forging

two planes and separating of the two files. The author gives a short description of the automated production process. There are 3 figures.

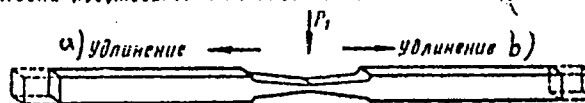
S/ 111, 01, 000, 000/000/012  
A004/A104

Figure 2:

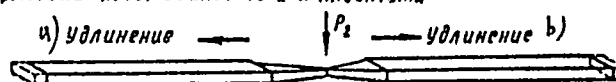
1. Непрерывный нагрев середины двойной заготовки



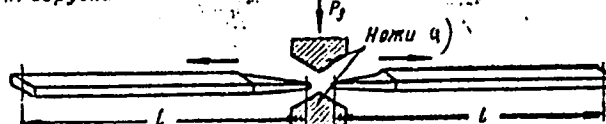
2. Ковка хвостовиков в 1-й плоскости



3. Ковка хвостовиков во 2-й плоскости



4. Разрубка



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S/026/62/000/004/002/004  
D262/D301

AUTHOR: Shishlakov, P.G.

TITLE: New steels for drop forging

PERIODICAL: Standartizatsiya, no. 4, 1962, 28 - 32

TEXT: Some new chromium-manganese and chromium-tungsten steels for forging die making are reviewed. It is stated that of the 20 existing makes of steel included in ГОСТ 7831-55 (GOST 7831-55) 25 % contain nickel, 5 XHВ (5KhBV) and 5 XHТ (5KhNT) being most widely used, but they are not considered as being fully satisfactory. The experiments, conducted by several institutes and steel mills, with different makes of steel in order to increase the useful life of drop forging stamps (impact strength, hardness, heat resistance, etc.) are discussed. The results of the experiments are presented in the form of graphs and tables and the following conclusions reached: Almost all stamps for drop forgings can be made of chromium-manganese and chromium-tungsten steels and they will give

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SHISHIAKOV, P.G.

Forging of crankshafts for looms. Kuz.-shtam. proizv. } no.11:  
9-12 N '61. (MIRA 14:11)  
(Forging) (Crankshafts)



SHISHLAKOV, P.G.

New steels for drop-forging dies. Standartizatsiia 26 no.4:  
28-32 Ap '62. (MIRA 15:3)  
(Dies (Metalworking)) (Steel--Standards)

S/182/62/000/009/001/004  
D040/D113

AUTHOR: Shishlakov, P.G.

TITLE: New die steels for hot stamping

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 9, 1962, 6-10

TEXT: Over 30 new die steels are recommended by VNIINMASH. The recommendations are based on the results of investigations conducted at the Moskovskiy institut stali (Moscow Steel Institute), the TsNII chernoy metallurgii (TsNII of Ferrous Metallurgy) and other institutes and plants. The major trend in Soviet research is to replace nickel steels by Cr-Mn and Cr-W grades; die steels per GOST 7831-55 (GOST 7831-55) do not satisfy increasing demands regarding the service life of hot stamping dies and the accuracy of obtained forgings. The chemical composition of the 30 new steels (EI955), 30 956 (EI956), 30 958 (EI958), 30 959 (EI959), 30 1 (EP1), 30 2 (EP2), 4X38Mn (4Kh3VMF), 4X62Mn (4Kh6SVMF), 5X4CB4Mn (5Kh4SV4MF), 5X1CB4Mn (5KhGSVF), and 5X1CB4Mn (5KhGS) new steel grades is given. The dies and die parts, for which each of the 30 odd new steel grades is suitable, are listed. Conclusions: (1) Almost all hot stamping dies can be made from

Card 1/2

SHISHLAKOV, P.G.

Scientific analysis method is a basis for the standardization  
of technological equipment. Standartizatsia 27 no. 4:23-27  
Ap '63. (MIRA 16:4)  
(Industrial equipment--Standards)

MIKHILAKOV, P.G.

Standardizing steel sections by stages. Standartizatsiia 29 no.1:  
20-22 Ja '65. (MIRA 18:4)

REF ID: A70020553 (A) IJP(c) JD/HR/DJ/RM  
SOURCE CODE: UR/0182/66/000/008/0023/0026

AUTHOR: Shishakov, P. G.

ORIG: none

TITLE: Precision forging of the sleeves of sliding bearings

SOURCE: Kuznechno-shtampovoychnoye proizvodstvo, no. 8, 1966, 23-26

TOPIC TAGS: dry bearing, metal forging, bearing material, plastic coating

ABSTRACT: A flowsheet for the precision forging of these sleeves is described. (Fig. 1). By this method it is possible to fit the sleeve to the shaft and bearing without resorting to any machining operations that might damage the fluoroplastic coating. Precision sizing of the inside and outside diameters of the sleeves can be accomplished with the aid of a set of dies whose dimensions are calculated to assure the required gap between the shaft and the walls of the bearing and to reduce the bending-induced stresses in the sleeve. The overall thickness of the sleeve wall is calculated as a function of the maximum bending radius of the laminated tape (e.g. steel base coated with fluoroplastic) at which the integrity of the plastic coating still remains preserved. To reduce the bending-induced stresses in the sleeve, and

UDC: 621.983

cont 1/2

ACC NR: AP6033755

SOURCE CODE: UR/0117/66/000/010/0029/0030

AUTHOR: Shishlakov, P. G.

ORG: none

TITLE: Dry friction slider bearings

SOURCE: Mashinostroitel', no. 10, 1966, 29-30

TOPIC TAGS: slide bearing, dry friction, bearing design, bearing performance, bearing material, ~~plastic-metal band~~ COMPOSITE MATERIAL

ABSTRACT: The design and performance of dry friction slider-type bearings are described in some detail. The most important part of the bearings is an insert or bushing made of a metal-plastic composite band. The rubbing layer is made of floroplast [an unspecified fluorocarbon] which has low thermal conductivity. To permit sufficient heat transfer, the thickness of this layer should not exceed 0.05 mm. The second layer, 0.3 mm in thickness, is of bronze granules having high thermal conductivity; bronze adheres readily to the floroplast. The third layer (base) is of soft cold-rolled steel. The bronze layer is fused to the 1—2 mm thick base. In addition to heat transfer, an important factor which insures reliable performance of the bearings is the intactness of the plastic layer; therefore, any machining of the rubbing surface is absolutely precluded, and bearings with plastic-metal composite bands are produced only by precision forming. The plastic rubbing surface is self healing: if its continuity is disrupted and the bronze exposed, the plastic will be

UDC: 621.822.5

Card 1/2

ACC NR: AP6033755

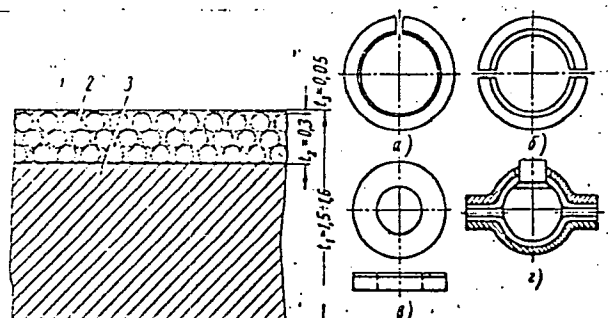


Fig. 1. Cross section of the multi-layer antifriction metal-plastic composite band

1 - Floroplast layer; 2 - heat transfer layer (bronze granules); 3 - steel base.

squeezed out from the bronze pores to restore the rubbing layer. However, such healing is limited by the amount of plastic in the bronze pores. Orig. art. has: 3 figures.

SUB CODE: 13/ SUBM DATE: none/

Card 2/2

SHISHKO, A. N.

Dissertation: "Stabilization and Destabilization of Hydrophobic Salts (Interaction of Salts of Arsenic Trisulfide with Gelatin)." Cand Chem Sci, Moscow State Pedagogical Inst imeni V. I. Lenin, 7 Jun 54. Vechernyaya Moskva, Moscow, 27 May 54.

SO: SUM 284, 26 Nov 1954



SHISHLO, K. S.

"Ways of Increasing the Production of Cotton-Printing Machines." Sub 31 May 51,  
Moscow Textile Inst

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

SHISHLO, K.S., kandidat tekhnicheskikh nauk

Electric drive of a new printing machine. Tekst.prom.15 no.10:48-  
49 0'55. (MLRA 3:12)

(Textile printing) (Electric machinery)

8(5)

SOV/112-59-3-5058

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 107 (USSR)

AUTHOR: Myl'nikov, N. N., Bakharevskiy, V. P., and Shishlo, K. S.

TITLE: Electrical Drive on New Cotton Printing Machines  
(Elektroprivod novykh pechatnykh mashin)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Tekhnol. tekstil'n. prom-sti,  
1958, Nr 1, pp 157-168

ABSTRACT: Two types of the electrical drive on cotton-printing machines used at the Ivanovo textile finishing plants are compared: (1) a drive with a 3-phase doubly-fed commutator motor with a regulating transformer (Czechoslovak make, 1955); (2) a generator-motor-scheme drive with a DC motor (made by the Shcherbakov Plant of Polygraphic Machines). The full range 1:11 of speed regulation is attained in the first type by means of an additional adjustable-speed reducer. A comparison shows that the generator-motor-type drive has the advantages over the 3-phase commutator-motor drive in controllability,

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8(5)

SOV/112-59-3-5058

Electrical Drive on New Cotton Printing Machines

higher speed, and lower electric-energy consumption per unit production. It is noted that the generator-motor scheme can be simplified for the operating duty in question. Both schemes and energy characteristics of the drives are presented.

L. Ya. L.

Card 2/2

SHISHLO, K.S.

Current status of automatized electric drive in the textile industry and the outlook for its expansion in the immediate future. Izv.vys.ucheb.zav.; tekhn.tekst.prom. no.1:152-155 '60. (MIRA 13:6)

1. Ivanovskiy tekstil'nyy institut.  
(Textile machinery--Electric driving)

SHISHLO, K.S.

Expanding the range of speed regulation in a.c. commutator motors.  
Izv. vys. ucheb. zav.; tekhn. teks. prom. no. 2:120-123 '61.  
(MIRA 14:5)

1. Ivanovskiy tekstil'nyy institut imeni M.V. Frunze.  
(Electric motors, Alternating current)

SHISHLO, K.S.; VOLKOV, A.V.

Driving devices of roving machines. Izv. vys. ucheb. zav.;  
tekh. tekst. prom. no.4:126-130 '63. (MIRA 16:11)

1. Ivanovskiy tekstil'nyy institut imeni M.V. Frunze.

L 38106-66 ENT(1) DD

ACC NR: AP6021226

SOURCE CODE: UR/0396/66/010/003/0065/0066

AUTHOR: Shishlo, M. A.; Shimkevich, L. L.

ORG: Chair of Physics and Chair of Histology, First Moscow Order of Lenin and Order of the Red Banner of Labor Medical Institute im. I. M. Sechenov (Kafedra fiziki i kafedra gistologii I Moskovskogo ordena Lenina i ordena Trudovogo Krasnogo Znameni meditsinskogo instituta)

TITLE: The effect of exposure of the intact organism to a constant magnetic field on the activity of oxidative enzymes in the livers of mice

SOURCE: Patologicheskaya fiziologiya i eksperimental'naya terapiya, v. 10, no. 3, 1966, 65-66

TOPIC TAGS: magnetic biologic effect, fermentation, oxidative degradation, enzyme

ABSTRACT: Five enzymes: succinate dehydrogenase (SDH), malate dehydrogenase (MDH), glutamate dehydrogenase (GDH), lactate dehydrogenase (LDH) and glucose-6-phosphate dehydrogenase (G-6-DH) were studied after 24 and 72 hr exposure to a magnetic field (4500 oe with a gradient of 500 oe/cm). Significant changes were noted in the activity of SHD, MDH and GDH manifested by the diffuse reaction of the cytoplasm and the size and number of granules, greater than in the controls. The enzymatic activity of LDH and G-6-DH did not change appreciably. The author concludes that

UDC: 612.351.11.014.426

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L 38106-66

ACC NR: AP6021226

the magnetic field primarily affects enzyme activity within the mitochondria and speculates that this is due to the alteration of the permeability of the mitochondrial membrane. He further correlates his findings with the observed increase in the phosphorylation coefficient in homogenates of guinea pig liver cells after exposure to a constant magnetic field. [14]

SUB CODE: 06/

SUBM DATE: 11Oct65/

ORIG REF: 003/

OTH REF: 004/

ATD PRESS: 5046

Card 2/2 *MLP*

SHISHLOV, A.D.

Preparation of collapsible metal molds for casting plates  
from epoxy resins. Zav. lab. 31 no.11:1401 '65. (MIRA 19:1)

1. Gor'kovskiy politekhnicheskii institut.

L 34558-66 EWP(j)/EWT(m)/T IJF(c) RM/DJ/WE

ACC NR: AP5027471

SOURCE CODE: UR/0032/65/031/011/1401/1401

AUTHOR: Shishlov, A. D.

ORG: Gorki Polytechnical Institute (Gor'kovskiy politekhnicheskiy institut)

TITLE: Preparation of metallic disassembling molds for casting epoxy plastic plates

SOURCE: Zavodskaya laboratoriya, v. 31, no. 11, 1965, 1401

TOPIC TAGS: ~~metal coating~~, rubber, epoxy plastic, aviation gasoline, *PLASTIC FABRICATING MACHINERY, PLASTIC COATING*

ABSTRACT: A 15% solution of silicon-organic caoutchouc SKT in Kalosha gasoline, recommended as an adhesion-preventing coating for metallic disassembling molds, cannot always be used because Kalosha gasoline is often unavailable. It was proven that this gasoline can be replaced by using a 5-6% solution of SKT caoutchouc in aviation gasoline B-70 which is usually available. A higher than 5-6% solution causes beading of the caoutchouc on the mold surface and subsequently on the epoxy plastic plates. The preparation of the mold is simple. Carefully cleaned and degreased mold parts are splashed at room temperature in the solution and dried for 2-4 hr at 80-90C in a drying oven. The gasoline should be pure because admixtures of heavier fractions do not evaporate entirely during drying, and diffusion of vapors into the resin makes the plates opaque and unapplicable. Cleaning the molds after production of resin plates is done by heating the molds at 50-60C in the drying oven, where the molds are rubbed by

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UDG: 620.170

L 34358-66

ACC NR: AP5027471

acetone which removes most of the caoutchouc. The remainder is removed by a school eraser containing no glass. The cleaning does not worsen the surface of the mold and even improves it.

SUB CODE://,13/ SUBM DATE: none

Card 2/2

DEMIN, G.I.; PLUZHNIKOV, A.I.; CHURAKOV, A.M., inzh.; ZHILIN, I.S., inzh.;  
MAKAROV, D.M., inzh.; LEBEDEV, N.D., inzh.; SHISHLOV, D.D., inzh.;  
IGLIN, V.P., inzh.; YEVLAYEV, E.S., laborant; KISELEV, V.V.,  
laborant; KOTEL'NIKOV, V.V., laborant; TYULENEVA, N.I., laborant

Transfer of a holding furnace to heating by natural gas with  
self-carburization. Stal' 23 no.8:755-758 Ag '63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov (for Demin, Pluzhnikov).  
(Furnaces, Heating)

SHISHLOV, G., inzh.

Atomizer with a hydraulically locked doubly differential  
needle. Mor. flot 20 no. 12:27-29 D '60. (MIRA 13:12)

1. Kaliningradskoye otdeleniye laboratorii dvigateley  
AN SSSR.

(Marine diesel engines)

SHISHLOV, G.A.; PRIVEZENTSEV, G.P.

Increasing the size of card sliver packages. Tekst.  
prom. 20 no.5:57-59 My '60. (MIRA 13:8)

1. Nachal'nik chesal'nogo tsekha pervoy fabriki kombinata  
"Krasnyy Perekop" (for Shishlov). 2. Zaveduyushchiy tsentral'-  
noy laboratoriyey kombinata "Krasnyy Perekop" (for  
Privezentsev).

(Carding)

SHISHLOV, G.A.; PRIVEZENTSEV, G.P.

Modernization of obsolete carding machines. Tekst. prom. 20  
no. 11:61-63 N '60. (MIRA 13:12)

1. Nachal'nik chesal'nogo tsekha fabriki No. 1 kombinata  
"Krasnyy Perekop" (for Shishlov).  
(Carding machines)



SHISHLOV, N.D.

Organizations of the Ministry of Construction participate in  
Soviet exhibitions abroad. Mont. i spets. rab. v stroi. 24 no.3:  
28-29 Mr 1962 (MTRA 15:6)

1. Gosudarstvennyy institut po vnedreniyu peredovykh metodov  
rabot i truda v stroitel'stve Ministerstva stroitel'stva SSSR.  
(Building Exhibitions)

SHISHLOV, V.

The first Soviet production line. Mast.prom.i khud.promys. 3  
no.4:13 Ap '62. (MIRA 15:5)

1. Glavnyy inzh. Kashirskoy makaronnoy fabriki "Udarnitsa", Kashir,  
Moskovskoy oblasti.

(Kashira—Macaroni) (Assembly-line methods)

4-15814, - 1.

Wm. Lanning

Terrestrial quantity of nest in various of fur-bearing animals. For. i over., 5, No. 5,  
1951.

Monthly List of Russian Accessions, Library of Congress, June 1951. UNCLASSIFIED.

NADGERIYEV, M.K., dotsent; KOCHEGAROV, A.A., kand.med.nauk; SHISHLOV, V.I.

Problems in the diagnosis and treatment of suppurative diseases  
of the lungs. Sov.med. 28 no.12:14-18 D '65. (MIRA 18:12)

1. Klinika obshchey khirurgii (zav. - dotsent M.K.Nadgeriyev) i  
klinika gospital'noy terapii (zav. - dotsent S.G.Salimov) Blago-  
veshchenskogo meditsinskogo instituta.

SHISHLOVA, G.N.; MOTINA, Ye.I., lingvist, red.; LEBEDEVA, N.B., geolog.,  
red.; DEM'YANOVA, L.G., red.; BUNINA, Ye.D., red.; LAZAREVA, L.V.,  
tekhn. red.

[Book for reading on geology; a textbook for foreign students study-  
ing the Russian language] Kniga dlia chteniia po geologii; uchebnoe  
posobie dlia studentov-inostrantsev, izuchaiushchikh russkii iazyk.  
Red.-lingvist E.I.Motina, Red.-geolog N.B.Lebedeva. Moskva, Izd-vo  
Mosk.univ., 1961. 139 p. (MIRA 14:11)

(Geology)

LUR'YE, Ye.I.; SHISHLOVA, L.G.

Industrial flow-system for the continuous rectification of  
synthetic aliphatic alcohols. Trudy VNIINeftekhim no.1:66-83  
'60. (MIRA 14:1)

1. Lengiprogaz.  
(Alcohols)

(Distillation, Fractional)

SHISHKOVA, N.A.

Corn Bacterial leaf spot of corn and the possibility of using  
antibiotics for its control. Trudy Vses. inst. sel'khoz. mikrobiol.  
17:87-99 '60. (MIRA 15:3)  
(Corn (Maize)--Diseases and pests) (Antibiotics)

KUPERMAN, P.I.; GRYAZNOV, N.S.; MOCHALOV, V.V.; FROLOV, V.V.; MUSTAFIN, F.A.;  
 PUSHKASH, I.I.; SLAVGORODSKIY, M.V.; LAZAREV, B.L.; BORISOV, V.I.;  
 Prinimali uchastiye: CHERKASOV, N.Kh.; ZABRODSKIY, M.P.; RYTCHENKO,  
 A.I.; RUTKOVSKAYA, Ye.N.; SAITBURGANOVA, N.I.; SHTAGER, A.A.;  
 SHISHLOVA, T.I.; BUDOL', Z.P.; MEN'SHIKOVA, R.I.; GORELOV, L.A.;  
 AGARKOVA, M.M.; KOUROV, V.Ya.; KOGAN, I.A.; BEZDVERNIY, G.N.;  
 POKROVSKIY, B.I.

Effect of the lengthening of the coking time on the coke quality and  
 testing of coke in the blast furnace process. Koks i khim. no.9:  
 23-28 '63. (MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Gryaznov,  
 Mochalov, Kogan, Bezdvernyy, Pokrovskiy). 2. Ural'skiy institut  
 chernykh metallov (for Frolov). 3. Nizhne-Tagil'skiy  
 metallurgicheskiy kombinat (for Mustafin, Pushkash, Slavgorodskiy,  
 Lazarev, Cherkasov, Zabrodskiy, Rytchenko, Rutkovskaya,  
 Saitburganova, Shtager, Shishlova, Budol', Men'shikova).
4. Koksokhimstantsiya (for Borisov, Gorelov, Agarkova, Kourov).  
 (Coke—Testing)



SHISHLOVSKAYA, K. Ya.

"Functional Changes in the Higher Divisions of the Central Nervous System and the Dynamics of the Blood Sugar Level." Cand Med Sci, Gor'kiy State Medical Inst, Gor'kiy, 1953. (RZhBiol, No 3, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

SHISHLOVSKAYA, K.Ya.

Effects of the highest segment of the central nervous system on the  
blood sugar level. Zhur.vys.nerv.deiat. 6 no.2:304-311 Mr-Apr '56.  
(MLRA 9:8)

1. Kafedra fiziologii Gor'kovskogo meditsinskogo instituta im.  
S.M.Kirova.

(BLOOD SUGAR

eff. of conditioned reflex in dogs)

(REFLEX, CONDITIONED

eff. on blood sugar level in dogs)

SHISHLOVSKAYA, K.Ya. (Moskva)

Study of the forced vital capacity of the lungs in silicosis. Gig.  
truda i prof. zab. 4 no.4:23-28 Ap '60. (MIRA 15:4)

1. Institut gigiyeny truda i professional'nykh zabolevaniy AMN SSSR.  
(LUNGS—DUST DISEASES) (RESPIRATION)

The laws of the extinction of the phosphorescence of color solutions. A. A. Muchlovskii and S. I. Vasilov. *Photochem. Photobiophys.* 3, 379 (1974). A phosphoroscope for the measurement of extinction times of 0.01 to 2 sec. is described, and expts. are reported on the laws of extinction of rhodamine orange N in very viscous sugar solns. The extinction follows the exponential law  $I = I_0 e^{-t/\tau}$  where  $\tau$  varies with the temp., concn. and viscosity of the soln, while  $I_0$  remains const. These results and those of related expts. are interpreted from the point of view of a theory of collisions of the 2nd kind in liquids.

Morris Muskat

ASA 35A METALLURGICAL LITERATURE CLASSIFICATION

A comparison of absorption and fluorescence spectra of anthracene in different states of aggregation. V. A. Shishlovskii. *Compt rend acad sci T R S*, 15, 20, 41 (1937) (in English). The absorption and fluorescence spectra of anthracene vapor are similar to those found by previous workers for benzene solns. of anthracene and for cryst. anthracene. Wave-length max. for the vapor are shifted slightly toward shorter wave lengths. The relative intensity of the absorption bands of the vapor differs from that reported for solns. of anthracene. The bands in the fluorescence spectrum of the vapor are more blurred than they are in spectra of solns. Conclusions. The substitution of short-wave for long-wave excitation causes the spectra to lose their characteristic fine structure and merge into a continuous spectrum. The spectrum of alc. solns. of anthracene preserves its shape and relative intensity of bands. The spectrum of cryst. anthracene behaves in the same way as that of solns.

H. B. van Valkenburg

AS 514 METALLURGICAL LITERATURE CLASSIFICATION

693. Luminiscent-Photographic Measurement of Ultra-Violet Energy Distribution. L. N. Anan'eva and A. A. Shishlovsky. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.* 17, 4, pp. 183-187, 1937. In English.—The authors describe a method which uses the visible fluorescence of certain solutions for the observation of the intensity distribution of the incident u.v. light. The intensity of the fluorescent light is measured and a formula is given which connects this intensity with the relative energy distribution of the u.v. spectrum. The authors discuss the various conditions which the fluorescent solution has to fulfil in order to give satisfactory results. It is found that a thin film of sodium salicylate and gelatin on a quartz-plate satisfies these conditions. A recipe is given for the preparation of the solution. For the actual observation the film is brought into contact with an ordinary photographic plate. The fluorescence spectrum of sodium salicylate lies in the blue with a maximum at 4500 Å. This method is applicable to the region 2000-3600 Å. The authors have measured the energy distribution of the continuous H<sub>2</sub> spectrum and find satisfactory agreement with previous experimental results.

Methods and devices for luminescopic examination and  
classification of substances. A. Shishlovskii. Zaved-  
skaya Lab. 7, 1160 71(1938). A discussion. C. B.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

PRINCIPLES AND PROPERTIES INDEX																									
1ST AND 2ND ORDER													1ST AND 2ND ORDER												
<div style="display: flex; justify-content: space-between;"> <span>SA</span> <span>A 54 C</span> </div> <p>2115. Photoluminescence of electrolytic solutions. Part I. B. GORDON AND A. SHKILOVSKY. <i>Mém. Phys. Ukrainian S.S.R.</i>, 8, 1, pp. 91-95, 1939. In Ukrainian. Experiments on salts of <math>Tl^+</math>, <math>Pb^{2+}</math>, <math>UO_2^{2+}</math> and <math>Cu^{2+}</math> in water and alcohol solutions show that where the formation of a complex should be expected, corresponding to formation of a protective layer round the cation, the solution is usually photoluminescent. D. S.</p>																									
<div style="display: flex; justify-content: space-between;"> <div> <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>FROM 1770-1939</p> </div> <div> <p>FROM 1770-1939</p> <p>FROM 1770-1939</p> </div> </div>																									



C 4

Spectrophotometry of [light of] low intensity. A. A. Shishlovskii: *Phys. Trans. Ukrain. Acad. Sci.* 9, 19 27 (1910). --A new spectrophotometer which utilizes 40% of the light energy as compared with 6% in the Koenig-Martens app. is described. B. C. P. A.

Physics Inst, Leningrad State U.  
optical lab, Physics Inst, Ukr-AS

CA  
Photoluminescence of solutions of thallium salts. B. E. Giddon and A. A. Shishlovskii. *Acta Physicochim.* U. S. S. R. 13, 247-64 (1940) (in German); cf. Hilsch, C. A. 32, 50<sup>1</sup>.—Using water free of the "blue fluorescence" O. and L. detd. spectrographically the fluorescence spectra of solns. of a large no. of pure Tl + Pb, Sn and In salts as well as of mixts. of Tl and K in their mixts. with K and Li halides. The exptl. data are shown in 14 figs. and 1 table. All these salts show intense fluorescence the max. of which at about 410 mμ is practically independent of the anion and of the concn. used up to 10<sup>-3</sup> molar. The intensity of luminescence attains a max. at 15 × 10<sup>-4</sup> mols./l. TlCl, shifted to 6 × 10<sup>-4</sup> by addn. of 1 × 10<sup>-3</sup> mols. KCl. For ClO<sub>4</sub><sup>-</sup>, AcO<sup>-</sup> and SO<sub>4</sub><sup>2-</sup> the fluorescence is violet, addn. of alkali or alk. earth ions has no effect, Cl ions produce a blue fluorescence, the max. lie at 437 and 450 mμ, the increased intensity is a linear function of the Tl-ion concn. and of a fractional exponent of the Cl-ion concn. Addn. of Br ions in up to 10<sup>-3</sup> molar concns. quenches fluorescence, more Br ions then produce a green fluorescence, λ = 495 mμ; the concn.-intensity relations indicate that the bearer of the luminescence is the TlBr<sub>2</sub><sup>+</sup> ion. Addn. of I ions quenches fluorescence, which does not reappear at higher concns., OH and Fe<sup>3+</sup> ions also act as quenchers; in low concns. they produce no effect on the shape of the absorption spectrum. On the assumption that quenching is due to collisions of the 2nd kind according to

Vavilov, the  $\delta \tau \times 10^4$  values are approx. I, 3.0; Br, 0.25; OH, 0.45; Fe<sup>3+</sup>, 0.2. G. and Sh. conclude that the emission center is the hydrated Tl<sup>+</sup> ion. Ions whose polarization is less than that of water produce no effect. Ions with a greater polarization cause quenching. The life of the excited state of Tl<sup>+</sup>(H<sub>2</sub>O)<sub>6</sub> and TlBr<sub>2</sub><sup>+</sup> is about 10<sup>-8</sup> sec. In the case of Cl, the complex formed contains more Cl ions the greater their concn., and the life of the complexes increases accordingly.  
F. H. Rathmann

GORDON, B. YE.; SHISHLOVSKIY, A. A.

Kiev

Optical Laboratory, Inst. of Physics of the Academy of Sciences Ukrainian SSSR, (-1940-).

"The Photoluminescence of Solutions of Thallium Salts."

Zhur. Fiz. Khim., Vol. 14, No. 11, 1940,

COMMON ELEMENTS																										COMMON VARIABLES INDEX																									
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS													1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
<div style="display: flex; justify-content: space-between;"> <span>SA</span> <span>535.370 2017</span> </div> <p>Comparative study of photoluminescence in liquid and solid solutions of thallium salts. KORSHENKIN, I. I., AND SMISHLOVSKY, A. A. <i>C.R. Acad. Sci. URSS</i>, 35, 6, pp. 163-166, 1942.—Describes spectral investigations of aqueous solutions of the haloids and sulphate of Tl, particularly to observe the effect of concentration of foreign ions in the solution. The data obtained were compared with available spectral data for crystalline Tl luminophores. The principal conclusion arrived at is that in the solid, as well as in the liquid solution, the cation Tl<sup>+</sup> is the carrier of luminescence. A. E. T.</p> <p>Karpov-Phys.-Chem. Inst.; Moscow Dept. Optics, Kiev State U.</p>																																																			
<div style="display: flex; justify-content: space-between;"> <span>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</span> <span>RESONANCE</span> </div>																																																			

535.372 2423

SA 753

Light yield of photoluminescence of aqueous solutions of  $Tl^+$  salts. KONDRINKO, I. I., AND SHASH-LOVSKY, A. A. *C.R. Acad. Sci. URSS*, 35, 8, pp. 236-240, 1942.—Describes spectral investigations, incl. the ultra-violet part of the emission spectrum, and measurements of the abs. value of the light yield for the emission spectrum as a whole. Solutions studied were a pure aq. solution of  $TlCl$  and a mixed aq. alkaline haloid solution of  $TlCl + KCl$ . The measurements of the abs. energy yield were based on comparative measurements of the energy yield for the solution investigated and that for fluoresceine solution, for which the yield is known. The quantum yield was calculated from the abs. energy yield. The results obtained are set out in a table which shows how the light yield (energy and quantum) is influenced by the conc. of free  $Cl^-$  ions in solution. A. E. T.

ASAC-11.4 METALLURGICAL LITERATURE CLASSIFICATION

CA

Emission of spectrally diffuse bands by solutions of Ce salts. A. A. Shishlovskii. *J. Exptl. Theoret. Phys.* (U.S.S.R.) 13, Nos. 7-8, 284-8(1943). - The absorption spectra of aq. solns. of the halides, sulfate, and nitrate of  $Ce^{III}$  were studied. The mechanism of the photoluminescence involves the ion  $Ce^{III}$  and its shell 4f, but not any complex products that may be formed. Ce and La salts show nearly the same absorption spectra, consisting of 4 diffuse bands. The spectra of the cryst. salt, and those of concd. solns. in water or in borate or phosphate solns. are very similar. The photoluminescence spectra are very stable as compared to those for Th, Pb, etc. E. H. Rathmann

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

CA 3

Absorption spectra of chlorine salts of thallium and lead in aqueous solution. A. A. Shishlovskii, I. I. Kondilenko, and M. U. Belyi (Kiev Univ.). *Izv. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 541-7 (1948).—It has been stated previously (Kondilenko and Shishlovskii, *C.A.* 37, 1931<sup>1</sup>) that photoluminescence of aq. solns. contg.  $TlCl$  is due to  $Tl^+$  and that its bond with  $Cl^-$  has electrostatic character. No relation between the intensity of radiation and the concn. of  $Cl^-$  could be observed. Absorption measurements were made on  $2 \times 10^{-4} M$   $TlCl$  with progressive addn. of  $KCl$ . With increasing concn. of  $Cl^-$  the absorption is also shifted towards longer wave lengths. Hydrated  $Pb^{2+}$  does not luminesce; luminescence occurs when  $Cl^-$  is added and the intensity is proportional to the  $Cl^-$  at low concns., indicating the formation of  $PbCl^+$  and neutral  $PbCl_2$ . Absorption measurements were made on  $PbCl_2$  and  $Pb(ClO_4)_2$  solns. and, with addn. of  $KCl$  or  $MgCl_2$ , increase of  $Pb^{2+}$  in solns. with excess  $Cl^-$  does not modify the absorption spectra but increase of  $Cl^-$  shifts the curves towards longer wave lengths. The results can be interpreted as follows: the short-wave band ( $\sim 200 m\mu$ ) is due to electronic transitions of  $Pb^{2+}$ ; the long-wave band ( $\sim 230-270 m\mu$ ) is due to transitions in the  $PbCl^+$  mol. Increase of  $Cl^-$  forms an ionic envelope around the  $PbCl^+$  mol. and thus causes the displacement of the spectrum.

S. Pakswar



SHISHLOVSKIY, A.A. ~~SHISHLOVSKIY, A.A.~~

SHISHLOVSKIY, A.A.

✓ The absorption spectra for aqueous solutions of the halide salts of thallium(I) and lead(II). M. U. Belyi, I. I. Kondilenko, and A. A. Shishlovskii (State Univ., Kiev). *Pamyati Sergeya Ivanovicha Vavilova, Akad. Nauk S.S.S.R.* 1952, 247-68. — The absorption spectra was studied photographically for aq. solns. of the halide of  $Tl^+$  and  $Pb^{++}$ . The absorption of the anion was accounted for by means of a comparison spectrum of the solvent contg. an equiv. concn. of the anion usually in the form of the K salt. The concn. of the solns. was varied from satd. to very dil. A comparison of the spectra leads to the conclusion that the spectra are due to electronically excited states of the cations. Assoc. processes were also observed leading to the formation of the ions:  $TlBr_2^+$ ,  $PbCl^+$ ,  $PbBr^+$ , and  $PbI^+$ . J. R. L.

(2)

SHISHLOVSKIY, A. A.

U S S R .

535.514.2

10701. Calculations concerning, and investigation of,  
a polarizer for the infrared; M. I. LITSKA AND A. A.  
SHISHLOVSKIY. *Izv. Akad. Nauk SSSR, Ser. Fiz.*,  
17, No. 5, 660-8 (1953) In Russian.

Formulae are worked out for the degree of polarization  $P$  of light passed by a pile of plates, making allowance for absorption in the plates, and interference in the thin layers of air between them. With proper dimensioning of the polarizer (thickness of the plates and of the air space between them) these two effects can increase the value of  $P$ , and i.r. light, incident at the Brewster angle on a pair of selenium plates, should come out 99.5% polarized; which is approximately confirmed by experiment. The formulae deduced are found to reproduce experimental results, e.g. for the variation of  $P$  with the angle of incidence, satisfactorily. A diagram of the arrangement for investigation of the polarization of i.r. light by a pile of selenium plates is shown. R. C. MURRAY

Kiev State U.

SHISHLOVSKIY, A. A.

U S S R .

535.321 : 535.417  
19011. Spectrointerferometric differential method  
for measuring the refractive index and dispersion of  
liquids. D. V. CHEPUR AND A. A. SHISHLOVSKIY.  
Izv. Akad. Nauk SSSR, Ser. Fiz. Tsv. Nauch. 6, 761-4  
(1953) In Russian.

This is an improvement on Obreimov's (1945) method for determining refractive indices of liquids interferometrically. The construction of a special cuvette for containing the test and reference liquids, the measurement of the thickness of the liquid-containing spaces in the cuvette, using two liquids of known refractive index, the method of determining the absolute value of the order of the interference bands by rotation of the cuvette through a small, accurately measured angle (so as to change the optical thickness of liquid traversed) and finally the method of measuring the refractive index interferometrically to within a few units in the sixth place, are described.

R. C. MURRAY

RDW

SHISHLOVSKIY, Aleksandr Andreyevich

Academic degree of Doctor of Physico-mathematical Sciences, based on his defense, 13 December 1954, in the Council of the Kiev State U imeni Shevchenko, of his dissertation entitled: "Optical research of luminescent solutions of electrolytes" and Academic title of Professor. Chair: "Optics."

Academic degree and/or title: Doctor of Sciences and Professor

SO: Decisions of VAK, list no. 17, 9 Jul 55, Byulleten' MVO SSR, No. 17, Sept 56, Moscow, pp 9-16, Uncl. JPRS/NY-435

USSR/Chemistry - Analytical chemistry

Card 1/1      Pub. 43 - 94/97

Authors : Shishlovskiy, A. A.

Title : Microspectroabsorption investigation of Tl and Pb halides

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 298, Mar-Apr 1954

Abstract : Brief summary is presented of the results obtained during microspectro-absorption analysis of thallium and lead halides. The special arrangement constructed for this investigation is described. The three types of absorption centers discovered in the halides are explained. One USSR reference (1952).

Institution : The T. G. Shevchenko State University, Kiev

Submitted : .....

USSR/ Chemistry - Spectral analysis

Card 1/1      Pub. 43 - 95/97

Authors : Byelyy, M. U., and Shishlovskiy, A. A.

Title : Absorption spectra of alkaline solutions of Tl and Pb salts

Periodical : Izv. AN SSSR. Ser. fiz. 18/2. 298-299, Mar-Apr 1954

Abstract : Data are presented regarding the absorption spectra, ion bonds, covalence and chemical associates of alkaline solutions of thallium and lead salts as established through spectral analysis.

Institution : The T. G. Shevchenko State University, Kiev

Submitted : .....

SHISHLOVSKIY, A. A.

USSR/Physics

Card 1/1      Pub. 43 - 17/62

Authors : Gorban', I. S., and Shishlovskiy, A. A.

Title : Anomalous light dispersion in solutions of complex organic compounds

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 676-677, Nov-Dec 1954.

Abstract : The light dispersion in solutions of fluorescein, iodo-eosin, fuchsin, cyanine, rhodamine B, etc., was investigated by means of a combined spectrometer-Rayleigh interferometer. These organic compounds were chosen because of their known simple absorption bands in the visible zone of the spectrum. It was found, in contrast to vapors with lined absorption spectrum, that the dispersion curves of the investigated complex organic compound solutions have an asymmetry within the simple absorption bands and that the maximum of the absorption curve is much better expressed than the minimum. One USSR Reference (1953). Graph.

Institution : The T. G. Shevchenko State University, Physics Faculty, Kiev

Submitted : .....

SHISHLOVSKIY, A. A.

USSR/Physics - Analysis methods

Card 1/1 Pub. 43 - 18/62

Authors : Shishlovskiy, A. A.

Title : The method of concentrational optical functions as a phys-chem. analysis method at reversible chem. reactions

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 677-678, Nov-Dec 1954

Abstract : It is shown experimentally that the method of concentrational optical functions is well applicable in such cases where the optical characteristics analyzed remain qualitatively unchanged, since they change only quantitatively. Examples are also cited showing that this optical function method can also be successfully applied during photochemical reversible reactions and in cases where the equilibrium of a given system is disturbed by the change in temperature of the solution. One USSR group reference (1940-1952).

Institution : The T. G. Shevchenko State University, Physics Faculty, Kiev

Submitted : .....



SHISHLOVSKIY,

USSR/ Physics

Card : 1/1

Authors : Kundzich, G. A. and Shishlovskiy

Title : Vavilov's law on constancy of quantum outputs of the photo-luminescence of vapors of organic substances.

Periodical : Dokl. AN SSSR, 97, Ed. 3, 429 - 432, July, 1954

Abstract : Describes experimental work performed on various vapors of organic substances in order to find out whether Vavilov's law on constancy of output quanta of photo-luminescence of various organic solutions is applicable to vapors of organic substances or not. Diagrams and a table show results of the experiments. Nine references.

Institution : Kiev State University, im. T. G. Shevchenko

Presented by : Terenin, Academician, March 31, 1954

SHISHLOVSKIY, O. A.

Category: USSR

B-11

Abs Jour: Zh--Kh, No 3, 1957, 7643

Author : Shishlovskiy, O. A.

Inst : Kiev University

Title : On the Utilization of Optical Concentration Functions in the Structural Analysis of Electrolytic Solutions

Orig Pub: Nauk. Zap. Kievs'k. Un-t, 1955, Vol 13, No 7, 63-79 (published in Ukranian with a Russian summary)

Abstract: A method is proposed for the optical determination of the stoichiometric composition of the simplest chemical compounds formed in reversible reactions. The method is based on the analysis of the functional dependence of the optical properties of the solution on the concentration of the structure-forming elements of the solution; the dependence must be linear. Experimental data obtained from luminescence, absorption spectra, and refraction measurements for solutions

Card : 1/2

-3-

Category: USSR

Abs Jour: Zh--Kh, No 3, 1957, 7643

of Tl and Pb halide salts are evaluated. It is shown that association of various types occurs in mixed Tl bromide and chloride solutions containing an excess of  $\text{Cl}^-$ ,  $\text{F}^-$ , and  $\text{OH}^-$  ions; when an excess of  $\text{Br}^-$  ions is present, association of the type  $\text{TlBr}_2^-$  has been definitely established. In the case of aqueous dilute solutions of Pb halide salts, the cation is hydrated; in the presence of  $\text{Cl}^-$ , structures of the type  $\text{PbCl}$  are formed. In alkaline solutions of Pb containing an excess of  $\text{OH}^-$ , the formation of associates of constant stoichiometric composition has been noted.

Card : 2/2

-4-

SHISHLOVSKIY, O. A.

USSR/Physical Chemistry - Molecule. Chemical Bond, B-4

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60765

Abstract: optical centers of these salts are the cathions. In solution the cathions yield practically no bonds of homeopolar nature with other ions and thus differ substantailly from cathions of heavy metals. Proximate order around the cathions plays a certain role in these instances also but it does not determine the position and nature of the spectra of the given ions. Measurements of quantum yield, phosphorescopic observations, investigation of the nature of elemental emitter according to wide-angle interference, lead the author to the conclusion that in all, of the investigated instances there takes place a dipole radiation of cathions caused by permissible transitions of electrons from the external electron shell 5d to the inner, well protected electron shell 4f. Structure in the spectra, which notwithstanding their diffuse nature can still be detected, is in good agreement with that which is to be expected in view of the theory.

Card 2/2

USSR/Optics

K

Abs Jour: Referat Zhur-Fizika, 1957, No 4, 10430

log k changes from 3.98 to 3.88 (k is the absorption coefficient). When the solvent is diluted with water, the band changes gradually into the absorption spectrum of the hydrated  $Pb^{2+}$  ion. The absorption band of the alkali associate of  $Pb^{2+}$  in a glycerine solution and of the chlorine and bromine associates in 50% aqueous solution of glycerine shifts towards the longer waves and broadens. The absorption spectra of chlorine, bromine, and alkali solutions of lead were investigated at temperature from 20 to 98° and from -2.5 to -14°. For chlorine and bromine solutions of lead, there is a lowering and broadening of the band with increasing temperature, and a narrowing and rising of the band with decreasing temperature. The spectra of the alkali solutions change little with changing temperature. It is concluded that aqueous solutions of the salts  $Pb(ClO_4)_2$  contain hydrated ions  $ClO_4^-$  and  $Pb^{2+}$ . The formations of the associates (Terenin A.N., Uspekhi fiz. nauk, 1937, 17, No 1) and transfer of energy does not take place. The shift of the max-

Card : 2/3

USSR/Optics

K

Abs Jour: Referat Zhur-Fizika, 1957, No 4, 10430

imum of absorption upon change of solvent is explained by the electrostatic action of the molecules of the solvent on the  $Pb^{2+}$  ion. From the data of the temperature measurements it is concluded that the weak associates of  $Pb^{2+}$  with the anions Cl, Br, and OH are not strong, and a role is played in their formation by the ions of the nearest order and partially of the farther order around the ion  $Pb^{2+}$ . It is concluded that the change in the absorption with changing temperature is not the result of the smearing of the energy levels, but of the weakening of the bond between the ions of the associates. The strongest associates are formed in alkali solutions, next in low-concentrated solutions, and then in strongly concentrated halide solutions of lead. This is confirmed by the presence of luminescence in chlorine solutions of lead.

Card : 3/3

USSR/Optics - Physical Optics, K-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35791

Author: Lsitsa, M. P., Shishlovskiy, A. A.

Institution: None

Title: The Calculation, Preparation and Investigation of a Polarization Pile

Original

Periodical: Nauch. zap. Kiivs'k. un-t, 1955, 14, No 8, 141-157

Abstract: A theory is given for a multilayer polarizer consisting of any number ( $m$ ) different non-absorbing thick plane-parallel layers. A separate analysis is given for the case of identical absorbing layers. Equations are obtained for the intensities of the light beams, reflected or transmitted through the multilayer pile, and equations are given permitting calculation of the degree of polarization ( $P_{d_m}$ ) in the absence of absorption, using a glass pile as an example. Its suitability is shown for all the working range of angles  $\varphi$ . The following results are obtained:

Card 1/2

FD-3209

USSR/Physics - Spectral Analysis of Liquids

Card 1/1      Pub. 153-18/28

Authors      : Gorban' I. S. and Shishlovskiy A. A.

Title        : Two simple spectro-interference methods for studying dispersion in the  
              visible and ultraviolet spectral bands

Periodical   : Zhur. Tekh. Fiz., 25, No 7, 1297-1306, 1955

Abstract    : The first method uses Fresnel diffraction on the boundary of two transparent  
              media. The other possibility consists in measuring of dispersion curves of  
              liquids and solutions without previous knowledge of their refractive index.  
              An assembled Rayleigh type interference meter was used. It is also possible  
              to study this way the anomalous dispersion of light in solutions. Five ref-  
              erences.

Institution: --

Submitted   : July 4, 1954

*SHISHLOVSKIY, O.A.*  
KUNDZICH, G.O. [Kundzich, H.O.]; SHISHLOVSKIY, O.A. [Shyshlovs'kyi, O.A.]

Temperature dependence of photoluminescence of vapors of polyatomic organic compounds. Nauk povid. KDU no.1:19-20 '56. (MIRA 11:4)  
(Luminescence)



*SHISHLOVSKIY O.A.*  
LISITSA, M.P. [Lysytsia, M.P.]; SHISHLOVSKIY, O.A. [Shyshlovs'kyi, O.A.]

Spectrophotometric method for determining the polarization degree  
of alloys. Nauk povid. KDU no.1:21 '56. (MIRA 11:4)  
(Alloys--Spectra)  
(Polarization (Light))

SHISLOVSKIY, A. A.

✓ Anomalous dispersion of light in the simplest solutions of  
inorganic compounds. I. S. Goran and A. A. Shislovskii.  
Soviet Phys. "Doklady" 1, 249-51(1956)(English transla-  
tion).—See C.A..51, 4824d.  
B. 11. R.

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SHISHLOVSKIY, A.A.

Comparison of the absorption spectra of dehydrated microcrystals of thallium and lead halide salts and of alkali halid phosphors activated by the salts of the above metals. Opt. i spektr. 1 no. 6:765-771 O '56. (MLRA 9:12)

1. Kiyevskiy Gosudarstvennyy universitet imeni T.G. Shevchenko.  
(Lead halides--Spectra) (Thallium halides--Spectra)  
(Phosphors--Spectra)

GORBAN', I.S.; SHISHLOVSKIY, A.A.

Rayleigh-type mirror interferometer. Opt. i spektr. 1 no.6:  
811-812 0 '56. (MLRA 9:12)

1. Kiyevskiy Gosudarstvennyy universitet.  
(Interferometer)

SHISHLOVSKIY, O. A.

7 17 18 64E22  
4E4f  
Spectrographical determination of carbon in steels  
V. P. Golovchenko and O. A. Shishlovskiy, *Zapiski Kirovsk. Derzhav. Univ. Ser. Fiz. Mat. Nauki*, No. 9, 1950, p. 11. One can determine C starting with 0.01%, and in the region from 0.01 to 0.03% C the error is  $\pm 8\%$ , and at higher C values  $\pm 2\%$ . The change of the intensity of the lines due to C by the presence of Mn, Cr, Ni, V, Mo, W, and Si is tabulated. 13 references. Werner Jacobson

PM  
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SHISHLOVSKYY, O.A.  
USSR/Physical Chemistry - Molecule, Chemical Bond.

B-4

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3518.

Author : M.U. Bilyy, O.A. Shishlovs'kyy.

Inst : Kiev University.

Title : Absorption Spectra of Thallium and Lead Alkaline Solutions.

Orig Pub: Nauk, zap. Kyivs'k un-t, 1956, 15, No 5, 47-52.

Abstract: Data concerning the absorption by chloride, bromide, iodide and thiocyanate solutions of Pb are quoted in the paper. The energy structure of the Pb cation is showing itself in all above mentioned cases. Consequently, the Pb ions belonging to the complex produce compounds, in which the individual behavior of these ions is preserved to a certain degree. The study of absorption by alkaline solutions of Pb salts showed that extraordinarily strong complexes originate in such solutions, and that the bond therein is near the homopolar one, which is indicated by the stability of the corresponding absorption band ( $\lambda$  (max.) =

Card : 1/2

-9-

USSR/Physical Chemistry - Molecule, Chemical Bond.

CIA-RDP86-00513R001549610015-9

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3518.

242 m $\mu$ ) at various OH<sup>-</sup> ion concentrations within great margins. A complex with a weak bond is produced in the case of alkaline solutions of Tl salts. This is also visible from the behavior of a certain absorption band ( $\lambda$  = 256 m $\mu$ ). The conclusions regarding the complex strength are confirmed by absorption measurements of polyanion solutions of the type M + KOH + KHal, as well as by the luminescence study of alkaline Pb and Tl solutions.

Card : 2/2

-10-

SHISHLOVS'KIY, O.A.

The curves of the absorption spectra of solutions of thallium and lead. M. U. Kuznetsov, O. A. Shishlov, Zh. Nauk. Zapiski Kirov. Dzerzh. ts. im. T. G. Shrechenko, 15, No. 9, Zbirnik Fiz. Fak. No. 3, 47-52 (1958).—The light absorption curves for  $PbCl_2$ ,  $PbBr_2$ ,  $PbI_2$ , and  $Pb(CNS)_2$  were analyzed in soln. and it was found that a certain part thereof will be indicative for the energy state of the  $Pb^{2+}$ . In solns. where Pb complexes are formed, some of the compounds arising will still show, to a certain degree, the individual behavior of  $Pb^{2+}$ . If KOH is added to such Pb solns. in various concns., then extremely stable complexes are formed, the bonds in which are practically homopolar, to which bonds belongs a new absorption band with  $\lambda_{max} = 2420 \text{ \AA}$ , and the concn. of the  $OH^-$  will become completely changed. In the case of Tl salts such complexes are formed, yet the bonds are not so strong, which can be seen from the shift of  $\lambda_{max}$  to 2580  $\text{\AA}$ . The stability of complexes can, therefore, be detd. if one makes absorption measurements in solns. which contain several anions, of the type  $M + KOH + KX$  ( $x = \text{halide}$ ), and also by a detn. of the luminescence properties of alk. solns. of Pb and Tl. W. J. Jacobson

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MT

SHISHLOVS'KIY, O.A.

A spectro-interferometric method of quantitative analysis of solutions which contain two or three compounds. I. S. Gorben, S. M. Rishova, and O. A. Shishlovskii. *Nauk. Zapiski Kirovsk. Derzhav. Univ. im. T. G. Shevchenko*, 18, No. 8, Zhurnal Fiz. Fak. No. 5, 61-6 (1970).—A variant of the quant. analysis of liquid mixts. is investigated, as of a soln. of toluene or of 1 or 2 of the xylenes in  $C_6H_6$ , which is based upon the dispersion of light. In this variant one need not measure  $n_D$  for certain wave lengths, but one counts the no. of interference bands, which occur in a certain portion of the spectrum. The accuracy of detg. one component in two- or three-component systems is good enough for plant-control purposes. Werner Jacobson

454-1

1/1

PM



SHISHLOVSKIY, A. A.

148  
ABSORPTION AND LUMINESCENCE OF FLUORIDE SOLUTIONS OF LEAD AND THALLIUM

M. U. Belyi and A. A. Shishlovskii (Shevchenko Kiev State Univ.). Invest. Akad. Nauk S.S.S.R. Ser. Fiz. 20, 574-8 (1956) May. (In Russian)

Absorption properties of  $Pb(ClO_4)_2$  + KF mixed solutions with changing concentrations of KF were studied. With small concentration of  $F^-$  (up to  $1.41 \text{ mol. l}^{-1}$ ) the absorption spectrum of  $Pb^{2+}$  hydrate cation kept diminishing and slightly spreading; with increased  $F^-$  content, the band position ( $\lambda_{\text{max}} = 208.5 \text{ m}\mu$ ) and its intensity remained constant until the fluoride ion concentration reached  $4.1 \text{ mol. l}^{-1}$ . The absorption spectrum began to grow reaching its maximum with the maximum concentration of fluoride ions. A glow of violet luminescence was observed in solutions activated by high concentrations of  $F^-$  and a new complex  $PbF^+$  was found. Fluorine solutions with Tl produced an opposite effect. With strong concentrations the luminescence of Tl was deactivated and this state of excitation was reduced, indicating the absence of stable complexes of Tl with  $F^-$ . (R.V.J.)

chem

gyl PM

~~SHISHLOVSKIY, A.A.~~

SHISHLOVSKIY, A.A.

✓ Anomalous dispersion of light in the simplest solutions of inorganic compounds. I. S. Gorban and A. A. Shishlovskii (L. G. Shevchenko State Univ., Kiev). Doklady Akad. Nauk S.S.S.R. 198, 63-5 (1966).—The forms of the dispersion curves were detd. in the absorption bands of solid "solns." in the case of the simplest types of absorption centers, i.e., the  $F$ -centers in alkali-halide crystals and the  $Pb^{++}$  ions in KBr which has been activated with  $PbCl_2$ . The method used has been described previously (C.A. 59, 6804). The exptl. data support Davydov's (C.A. 48, 6650c) theory.

L. Roytar Leach

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SHISHLOVSKIY, A. A.

Anomalous dispersion of light in dye solutions. I. S. Gorban and A. A. Shishlovskii (T. G. Shevchenko State Univ., Kiev). *Doklady Akad. Nauk S.S.S.R.*, 168, 310-13 (1958); cf. *C.A.* 50, 7586a. The dispersion curves were measured for locococsin, fluorescein, Rodamine B, and fuchsin in  $H_2O$ , EtOH, and  $Me_2CO$ . The results showed that the dispersion curves for dil. dye solns. are asym. and that the degree of asymmetry does not depend upon the nature of the solvent except in those cases where compd. formation occurs between the dye and the solvent molts.

J. Royter Leach

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plm's

SHISHLOVSKIY, M.  
PRIKHOT'KO, A F

24(7)

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PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universitet

Materialy X Vsesoyuznogo sveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizichnyy zbirnyk, vpp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Landsterg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitov, V.G., Candidate of Technical Sciences, Rayakiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanovich, V.S., A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Sverdlov, L.M. Calculation and Interpretation of the Vibrational Spectra of Olefins	278
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Card 19/30

Shishlovskiy, A. A.

AUTHOR: Lisitsa, M.P. and Shishlovskiy, A.A. 51-5-14/26  
 TITLE: Polarisation of Light Reflected by a Pile (of Glass Plates)  
 (Polyarizatsiya sveta, otrazhennogo stopoy)  
 PERIODICAL: Optika i Spektroskopiya, 1957, Vol.2, No.5,  
 pp.637-644 (USSR)

ABSTRACT: The degree of polarisation of a pile of  $m$  plane-parallel glass plates, each of a refractive index  $n$  is given by:

$$P = \frac{a(n^2 - 1)^2 \sin^2 \varphi \cos \varphi}{[(n^2 \cos \varphi - a)^2 + (a - \cos \varphi)^2 n^2] a \cos \varphi + m(n^2 \cos \varphi - a)^2 (a - \cos \varphi)^2} \quad (4)$$

where  $\varphi$  = the angle of incidence and  $a = (n^2 - \sin^2 \varphi)^{1/2}$   
 A pile of plates is used since only about 7% of the incident light is reflected by a single plate. The incident beam is usually divergent, so that only axial rays can be made to satisfy Brewster's condition for complete polarisation:

$$\sin \varphi = \frac{n}{\sqrt{n^2 + 1}}, \quad \cos \varphi = \frac{1}{\sqrt{n^2 + 1}}.$$

For the above reasons, it is of interest to find the dependence of  $P$  on  $m$  and  $n$ .

51-5-14/26

## Polarisation of Light Reflected by a Pile (of Glass Plates).

Figs. 1 and 2 show dependence of  $P$  on  $\varphi$  for piles consisting of 1 plate (I), 3 plates (II) and 10 plates (III). In Fig. 1,  $n = 1.516$  (glass); in Fig. 2  $n = 2.92$  (a theoretical value). These two figures show that an increase of  $m$  causes narrowing of  $\Delta\varphi$ , the range of incident angles at which maxima of  $P$  occur. Increase of the refractive index ( $n$ ) makes this effect of  $m$  on  $\Delta\varphi$  very pronounced. Fig. 3 shows good agreement between the experimental values (dashed curves) and the theoretical ones (continuous curves) for  $m = 1, 3$  and 10, respectively. The authors studied the way in which, in a single plate, the incident ray is broken up by multiple reflections into secondary rays. The number of these secondary rays,  $k$ , depends on the plate thickness, its length and the angle of incidence of the original ray. The effect of  $k$  on polarisation  $P$  in a single plate is shown in Figs. 4 and 5. Fig. 6 shows calculated  $P = f(\varphi)$  curves for a five-layer pile of selenium ( $n = 2.42$  in infrared); curve III is calculated from eq. (4) on p. 637, which includes the effect of all the secondary rays; other curves (I - II, IV - VIII) take into account only selected secondary rays. Fig. 7 shows dependence of polarised-light intensity on  $\varphi$  for the same selenium pile; curve I includes the effect of all the secondary rays, II-V only some selected

Card 2/3

GORBAN', I.S.; SHISHLOVSKIY, A.A.

Abnormal dispersion of light in dilute solutions. Fiz. sbor. no.3:  
286-289 '57. (MIRA 11:8)

1. Kiyevskiy gosudarstvennyy universitet im. T.G. Shevchenko.  
(Solution (Chemistry)) (Dispersion)

40151

S/058/62/000/007/032/068  
A061/A101

4670

AUTHORS: Zakharov, V. P., Shishlovs'kiy, O. A.

TITLE: Supply of material into the discharge gap of d-c and a-c arcs

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 14, abstract 7G118  
("Visnyk Kyivs'k. un-tu", 1958, no. 1, ser. fiz. ta khimiya, no. 1,  
129 - 131, Ukrainian; Russian summary)

TEXT: Atomic concentrations were measured in a-c and d-c arcs burning at atmospheric pressure between carbon electrodes. The elements concerned (Na and Li in concentrations of 8.5 and 21%, respectively) were introduced into one of the electrodes in the form of a mixture of salts of these elements with graphite. The atomic concentration in the discharge gas was determined by the method of "Rozhdestvenskiy's hooks", obtained on Rozhdestvenskiy's MT-23 (IT-23) interferometer crossed with the ИСП-67 (ISP-67) spectrograph. A comparison of the supply of material into a-c and d-c arcs leads to the conclusion that the input is proportional to the power of current consumed by the arc.

[Abstracter's note: Complete translation]

F. Ortenberg

Card 1/1



SAVIN, G.N., otv.red.; FAYNERMAN, I.D., zam.otv.red.; GREBEN', I.I., red.;  
ZHMUDSKIY, A.Z., prof., doktor tekhn.nauk, red.; SHISHLOVSKIY,  
A.A., red.; AMELIN, A., red.; PATSALYUK, P., tekhn.red.

[New methods of inspection and flaw detection in the machinery  
and instrument industries] Novye metody kontrolya i defekto-  
skopii v mashinostroenii i priborostroenii. Kiev, Gos.izd-vo  
tekhn.lit-ry USSR, 1958. 264 p. (MIRA 12:10)

1. Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy pro-  
myshlennosti. Ukrainskoye respublikanskoye pravleniye. 2. Gos-  
universitet im. Shevchenko, Kiyev (for Zhmudskiy, Shishlovskiy).  
(Machinery--Construction) (Instruments--Construction)

ZAKHAROV, V.P.; SHISHLOVSKIY, O.A. [Shyshlovs'kyi, O.A.]

Determining the effect of the composition of the test on the  
inflow of matter into the plasma of the direct current arc. Visnyk  
Kyiv.un.no.2.Ser.fiz.ta khim. no.1:21-25 '59. (MIRA 14:8)  
(Electric arc) (Plasma (Ionized gases))

24(7) . SCV/48-23-9-5/57  
 AUTHORS: Zakharov, V. P., Shishlovskiy, A. A.  
 TITLE: An Investigation of the Entry of a Substance Into the Arc Plasma. The Case of the Binary Mixtures of Na and Li  
 PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1063-1064 (USSR)  
 ABSTRACT: In the present paper the concentration of the atoms in a direct-current arc at atmospheric pressure is investigated, and, at the same time, the influence exercised by experimental conditions upon the entry of substances is investigated. The IT-23 interferometer according to Rozhdestvenskiy and an ISP-67 spectrograph were used, and the mixtures of NaCl, Na<sub>2</sub>CO<sub>3</sub> and Li<sub>2</sub>CO<sub>3</sub> with carbon were investigated by means of this instrument. These mixtures were located in the hole of one of the carbon electrodes. The entry of atoms into the direct current arc was found to be 1.33 times (Na) and 1.41 times greater (Li) respectively than that into the alternating current arc. During the investigation of the reciprocal influencing by the elements on the entry of atoms in the case of a change of the concentration of one of the components, it was found that the content of Na atoms in the discharge gap does not depend on the Li-content in the test sample. There is propor-

Card 1/2

SOV/48-23-9-5/57  
An Investigation of the Entry of a Substance Into the Arc Plasma. The Case  
of the Binary Mixtures of Na and Li

tionality of the lithium content between discharge gap and test sample. An increase of the concentration of a component in the test sample causes a monotonic increase of the concentration in the discharge gap. Only within the range of 25-40% Na was a deviation from the above result observed. Because of the different diffusion coefficients of Na and Li in the case of an equal content of elements in the test sample, the concentration of the Na atoms in the discharge gap is higher than that of the Li atoms. Furthermore, the influence exercised by the melting temperature of the mixture upon the entry of Na and Li atoms is investigated, and it is found that, with an increase of the average melting temperature, the entry both of Na and of Li decreases. If bivalent Ca is used instead of monovalent Li in the test sample, the entry of Na is decreased two-fold. There are 3 figures and 2 Soviet references.

Card 2/2